Wetland Investigation – GPS Mapping Report*

***(Preliminary Mapping is not a Jurisdictional Delineation of Wetland Boundaries)**

I-94 East-West Corridor Study: Preliminary Wetland Investigation
WisDOT ID# 1060-27-01

Milwaukee County

Prepared for

Wisconsin Department of Transportation
Southeast Region
141 Northwest Barstow St.
Waukesha, WI 53187

REVISED OCTOBER 2012

Prepared by

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GRAEF Project No. 2012-0021.05

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(414) 259-1500

Ron Londre
Ecologist & Wetland Scientist

Geof Parish
Hydrogeologist & Project Manager

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APPENDICES

I. Introduction

Per the request of the Wisconsin Department of Transportation (WDOT), GRAEF conducted a preliminary wetland mapping within a WDOT-defined Study Area along the I-94 East-West corridor from approximately North 25th Street to North 70th Street, US-41 from I-94 to State Street, and US-341 from I-94 to Canal Street in the City of Milwaukee, Milwaukee County, Wisconsin. The Study Area is outlined in yellow on the Figure series 1 through 3 in Appendix A. The investigation was completed as part of the planning process for improvements to the I-94 corridor. The preliminary wetland mapping was conducted to determine the location and extent of jurisdictional wetlands that could potentially be impacted by the project. Fieldwork was completed from June12-15 by Ron Londre and Geof Parish of GRAEF.

GRAEF identified sixteen (16) wetland areas, hereby referred to as "W-1 through W-16", within the Study Area limits and one waterway, Menomonee River. All of the aforementioned wetlands and waterways are shown on Figures 2-1 through 2-7 in Appendix A.

A. Background Review

Prior to performing the field investigation, GRAEF reviewed the *Wisconsin Wetland Inventory* (WWI) (Figures 3-1 through 3-7, Appendix A) and aerial photographs from 1995, 2000, 2005, and 2010 that were viewed on Southeastern Wisconsin Regional Planning Commission's (SEWRPC's), online GIS Portal[1]. The 2010 aerial photograph, obtained from SEWRPC, was used as the base map for the series of Figures (2 and 3) in Appendix A. Together, these ancillary data sources were used to gather background data in order to identify, preliminarily map, and discuss wetlands within the Study Area.

B. Field Investigation Methods

Using the information from the background review, GRAEF field-checked all potential wetlands within the Study Area corridor looking for outwards signs of wetland hydrology and dominant hydrophytic vegetation. Preliminary wetland boundaries were located using a Global Positioning System (GPS) with sub-meter accuracy. The

[1] http http://maps..orsewrpcg/regionallandinfo/regionalmapping/default.shtm

resulting data were then used to create a plot of approximate wetland boundaries overlaid onto a 2010 aerial base map as depicted on Figures 2-1 through 2-7 (Appendix A). Additionally, each wetland was photographed to visually document conditions at the time of the fieldwork. A photograph of each wetland is included on a CD in Appendix D.

Plant species lists were prepared for each of the wetlands within the Study Area by conducting a meander survey. Lists of observed plant species and a *Wisconsin Floristic Quality Assessment*[2] (WFQA) for each list are provided in Appendix B. Presence of an "X" next to a plant species indicates a dominant or co-dominant species within each community. Taking into account the overall composition of each wetland's plant communities and its hydroperiod, the most appropriate classification was assigned to each wetland using classification system outlined in *The Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline*[3].

Each list was entered into an electronic database which uses numerical ratings between 0 and 10 ("C" values) assigned to each native plant species in Wisconsin based upon the probability it was found in a relatively intact and undisturbed plant community found in Wisconsin. The higher the number, the more likely that species was found in a high quality natural area. The average of the sum of all C Values for each recorded species is the "mean C value" which indicates overall relative disturbance the native plant community has undergone since pre-settlement conditions of the 1800's. The mean C value multiplied by the square root of the number of species recorded provides a Floristic Quality Index (FQI), which also provides an indicator of species richness. According to the authors of this floristic quality method, an FQI value lower than 20 is generally indicative of a highly disturbed plant community that is not ecologically significant, while an FQI value above 20 indicates that a plant community may be relatively undisturbed and possess high floristic qualities, but may also be ecologically insignificant. The

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2 Bernthal, Tom. 2003. *Development of a Floristic Quality Assessment for Wisconsin*. Wisconsin Department of Natural Resources, Bureau of Fisheries Management and Habitat Protection, 22 pp.

3 *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline*. 1993, revised March 2002. Wisconsin Department of Natural Resources, United States Army Corps of Engineers, United States Environmental Protection Agency, United States Fish and Wildlife Service, and the Federal Highway Administration.

authors feel that an FQI above 35 is rare and indicative of a plant community with regional ecological significance.

The plant community lists provide a general characterization of wetland plant community composition and quality as well as potential for supporting conservative plant species and diverse wildlife habitat within the Study Area.

II. Results and Discussion

A. Background Review Results

Wisconsin Wetland Inventory Review

The Wisconsin Wetland Inventory (WWI) (Figures 3-1 through 3-7, Appendix A) shows five wetlands or wetland complexes with four different mapped wetland communities within the Study Area which are located in the same approximate locations as W-1, W-2, W-3, and W-16. The mapped wetland cover types within the Study Area are as follows:

F0H = Flats/Unvegetated wet soil (F), Subclass unknown (0), Standing water, palustrine (H)
T3/ F0H = Forested (T), Broad–leaved deciduous (3)/ /Unvegetated wet soil (F), Subclass unknown (0), Standing water, palustrine (H)
WOHx = Open Water (W), Subclass unknown (0), Wet soil, palustrine (H), excavated (x)

When compared to GRAEF's Preliminary Wetland Boundary Map (Figures 2-1 through 2-7, Appendix A), the WWI is generally consistent with the locations and cover types of wetlands W-1, W-2, W-3, and W-16 within the Study Area, however there are a number of discrepancies. For example twelve of the wetlands identified by GRAEF, including W-4 through W-15 were not shown on the WWI. These wetlands were small (<0.5 acre); therefore they may not have been easily detectable on aerial photography. Additionally, between 2007 and 2010 the change in land use from a commercial parcel to the creation of open space along the Menomonee River increased the size of the WWI wetland associated with W-16 to include a Wet Meadow.

Discrepancies between the WWI map and the GRAEF wetland map are attributed to the level of detail observable during field reconnaissance that cannot be observed by aerial observation alone.

Soil Survey Review

The NRCS does not have soils mapped within the study area. Therefore, GRAEF conducted a comprehensive investigation of all areas within the study area to investigate the presence or absence of wetlands.

Aerial Photography

Aerial photographs from 1995, 2000, 2005, and 2010 were reviewed on SEWRPC's Regional Map Viewer to determine the potential extent of wetlands within the Study Area and to analyze potential plant community types prior to the fieldwork. The most recent aerial photograph from the year 2010 was used as the base map for the series of Figures (2 and 3) in Appendix A.

Wetland features are typically observed on aerial photographs as non-farmed light tones with texture (often indicating a sedge or wet meadow), as dark tones in farmed areas, or as solid black tones indicating presence of standing water such as in ponds, rivers, and permanently inundated wetlands.

B. Field Investigation Findings

Types of Wetlands Identified

A total of sixteen (16) wetland areas (W-1 through W-16, and one navigable waterway, (Menomonee River) were identified within the Study Area limits. All of the aforementioned wetlands area shown on Figures 2-1 through 2-7 in Appendix A. On-site photographs of each wetland are located on the CD in Appendix D. All of the wetlands within the Study Area were GPS-located.

Wetlands in the Study Area were classified according to the system outlined in *The Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline*. The Wetland Information Table in Appendix E lists the location

(Township, Range and Section 1/4), WDOT wetland classification, dominant species, FQI, WWI mapped wetland type, association with a mapped waterway, for each identified wetland within the Study Area. The table also provides additional relevant comments and an opinion of jurisdiction based on a significant nexus to waterways that are known to be tributaries to navigable waters of the U.S. However, the final determination on this jurisdictional status of each wetland must be made by the U.S. Army Corps of Engineers (USACE). It is GRAEF's opinion that all of the wetlands in the Study Area, with the exceptions of wetlands W-1, W-2, W-3 and W-16, appear to be isolated and would likely be under the jurisdiction of only the Wisconsin Department of Natural Resources (WDNR), however this would require a jurisdictional determination by the USACE. Wetlands W-1, W-2, W-3 and W-16 appear to be non-isolated and would likely be under the jurisdictions of the WDNR and the USACE. Two of the wetlands W-1 and W-3 appear to been constructed for and serving as storm water detention basins as evident by the shape, location, and presence of inlet and outlet structures. However, because all three wetland criteria were identified they were determined to be wetlands.

In general, most of the wetlands in the Study Area corridor exhibited varying degrees of degradation that likely resulted in part from incompatible land use, such as hydrologic disturbances, frequent land alterations, and sedimentation and pollution from runoff. Evidence of degradation included physical disturbance such as the predominance of aggressive non-native plant species, deposited sediment, and salt damage.

Other Waters Identified

In addition to the identified wetlands, one perennial waterway, Menomonee River, was observed within the Study Area. According to the WDNR's Surface Water Data Viewer[4], the Menomonee River is a Natural Heritage Inventory Water (NHI) and is considered an Area of Special Natural Resources Interest (ASNRI). This special designation may be important during a potential permitting scenario as these areas are typically more environmentally sensitive and therefore may require avoidance or a more environmentally sensitive design approach.

[4] http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer

III. Summary

Based on the preliminary wetland mapping completed by GRAEF, there are sixteen (16) wetland areas (W-1 through W-16) and one navigable waterway (Menomonee River) within the Study Area limits. Most of the wetlands are small to medium sized and degraded due to urban land use practices.

Since a preliminary mapping is not a jurisdictional delineation of wetland boundaries, Methods outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual*[5] (Corps Manual), the August 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*[6] *(Midwest Supplement),* and the *Basic Guide to Wisconsin's Wetlands and their Boundaries*[7] should be used to further refine the wetlands within the Study Area in the event that any new construction are planned. Twelve of the wetlands (W-4 through W-15) in the Study Area appear to be isolated, with W-1, W-2, W-3 and W-16 that are likely to be under the jurisdictions of both the WDNR and USACE. The final jurisdictional determination lies with the USACE and it is recommended that such a determination be made for W-4 through W-15. Any alteration of the land within these wetlands area may require a joint Section 404 with 401 Water Quality Certification from one or both of these agencies. In addition, environmentally sensitive areas with special designations may require avoidance or a more thoughtful design approach.

[5] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

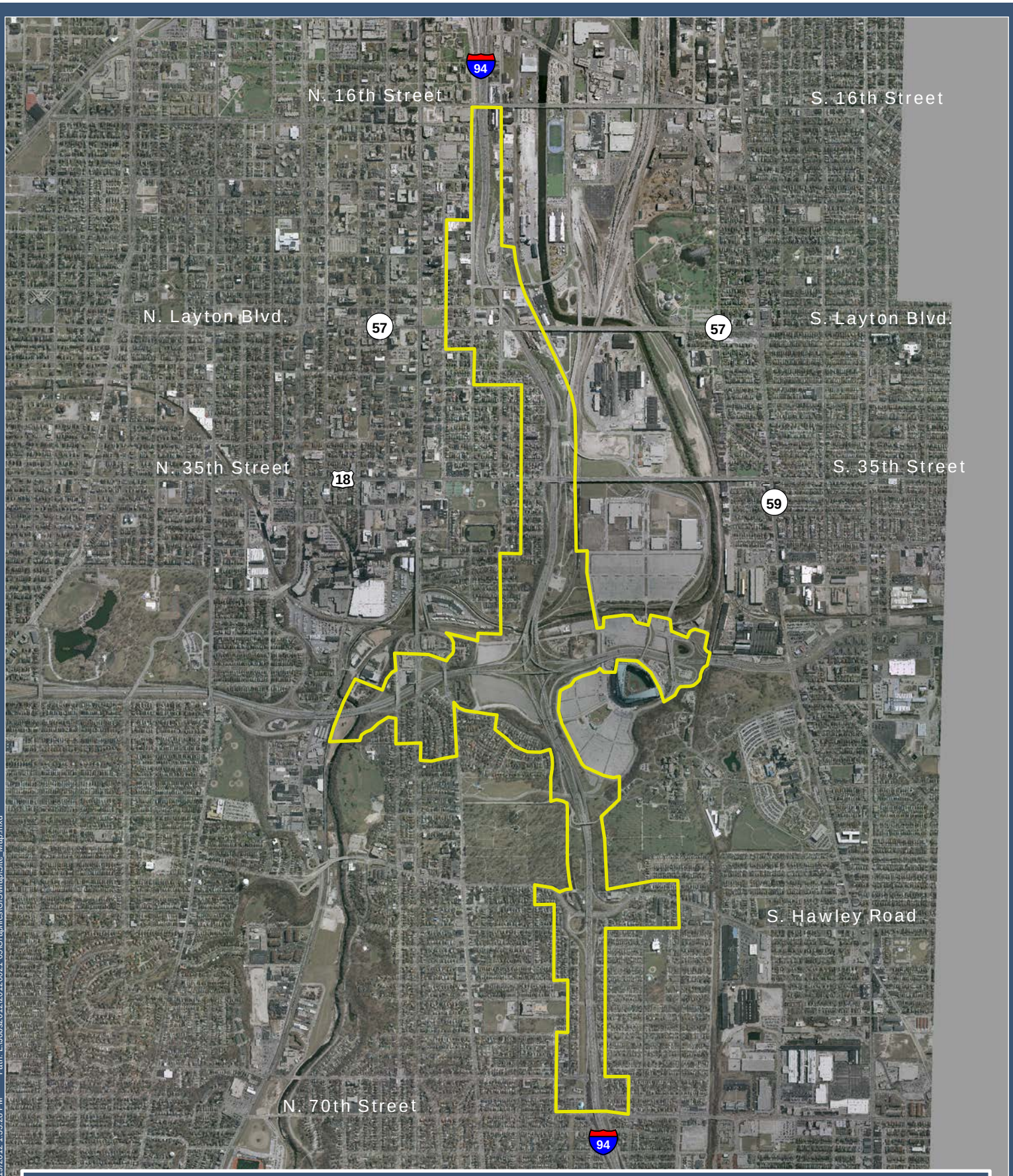
[6] Environmental Laboratory. August *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0). U.S. Army Engineer Waterways Research & Development Center, Vicksburg, MS.*

[7] WI Department of Administration, WI Coastal Management Program. 1995. *Basic Guide to Wisconsin's Wetlands and their Boundaries.* WI Coastal Management Program, Madison, WI

APPENDICES

APPENDIX A

Figures



I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Site Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

FIGURE # 1

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GRAEF

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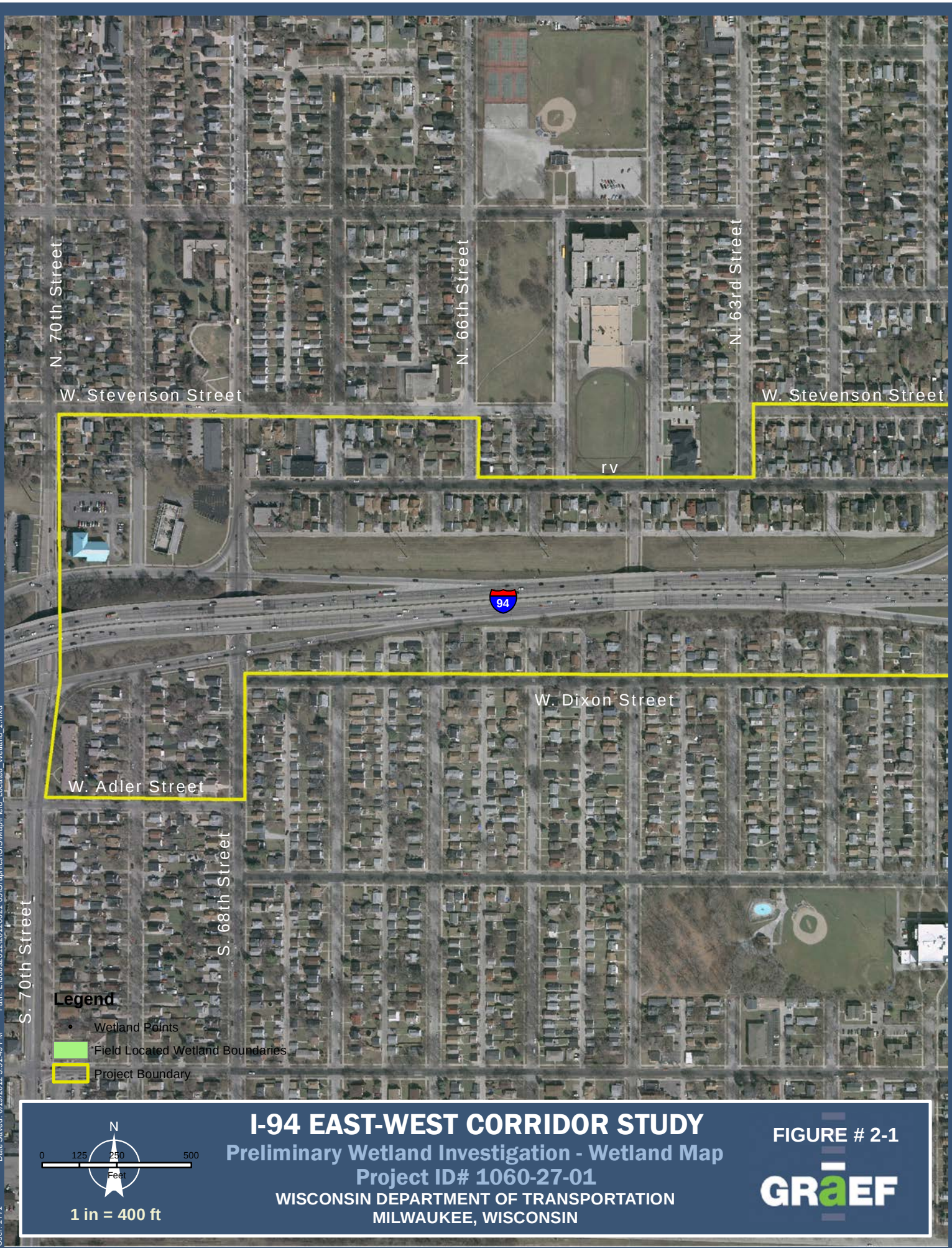

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

FIGURE # 2-1

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I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

FIGURE # 2-2

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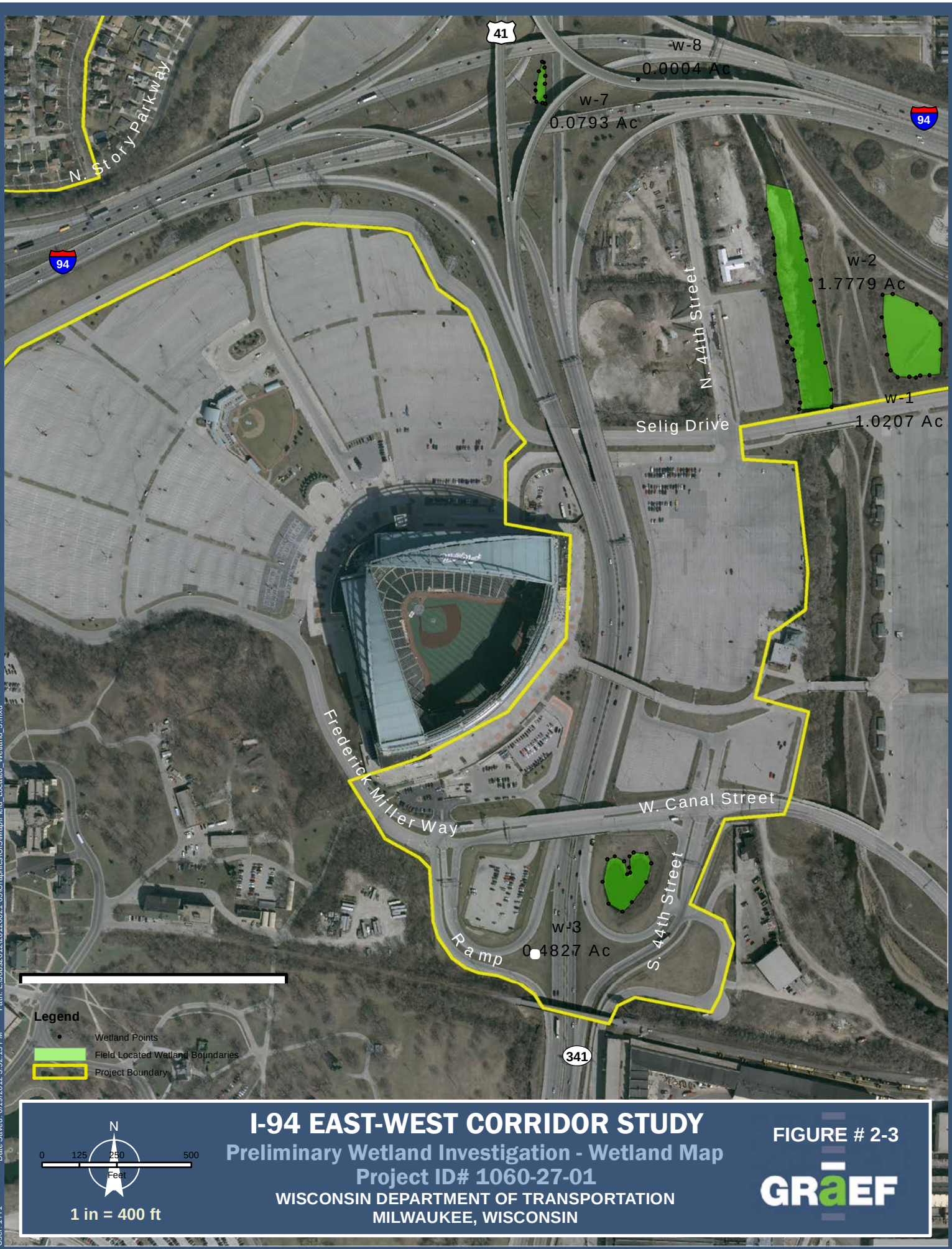

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

FIGURE # 2-3

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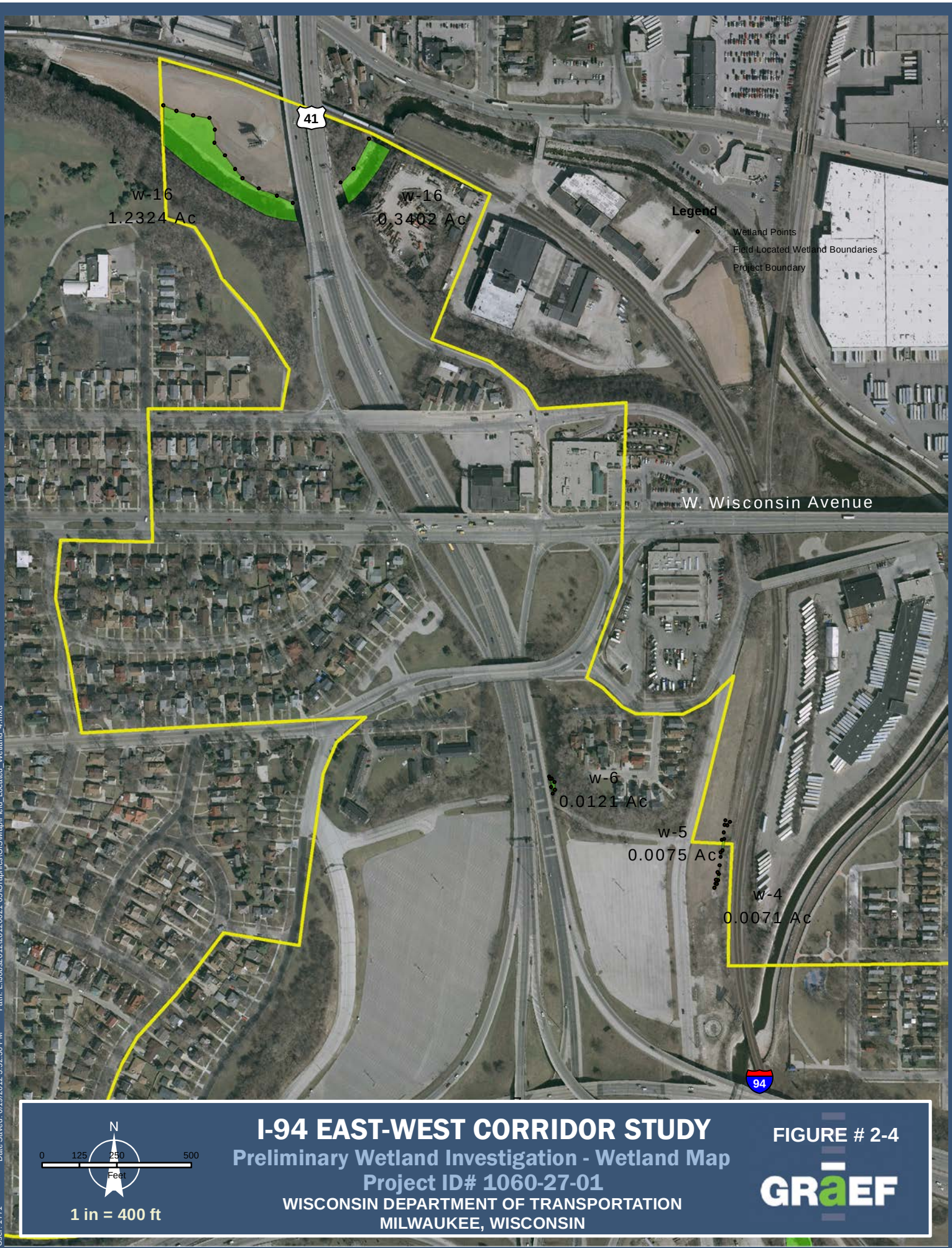

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 2-4

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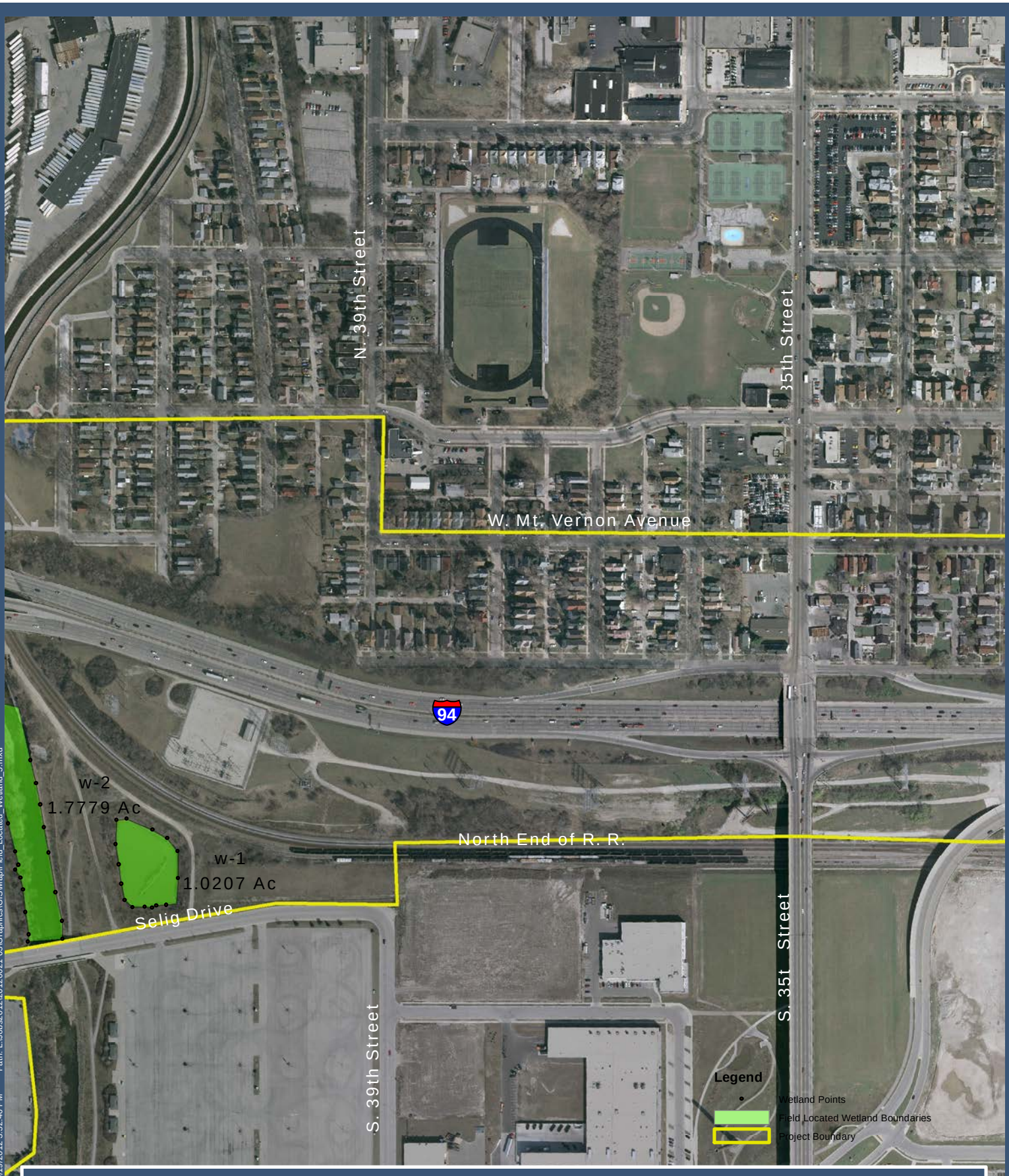

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 2-5

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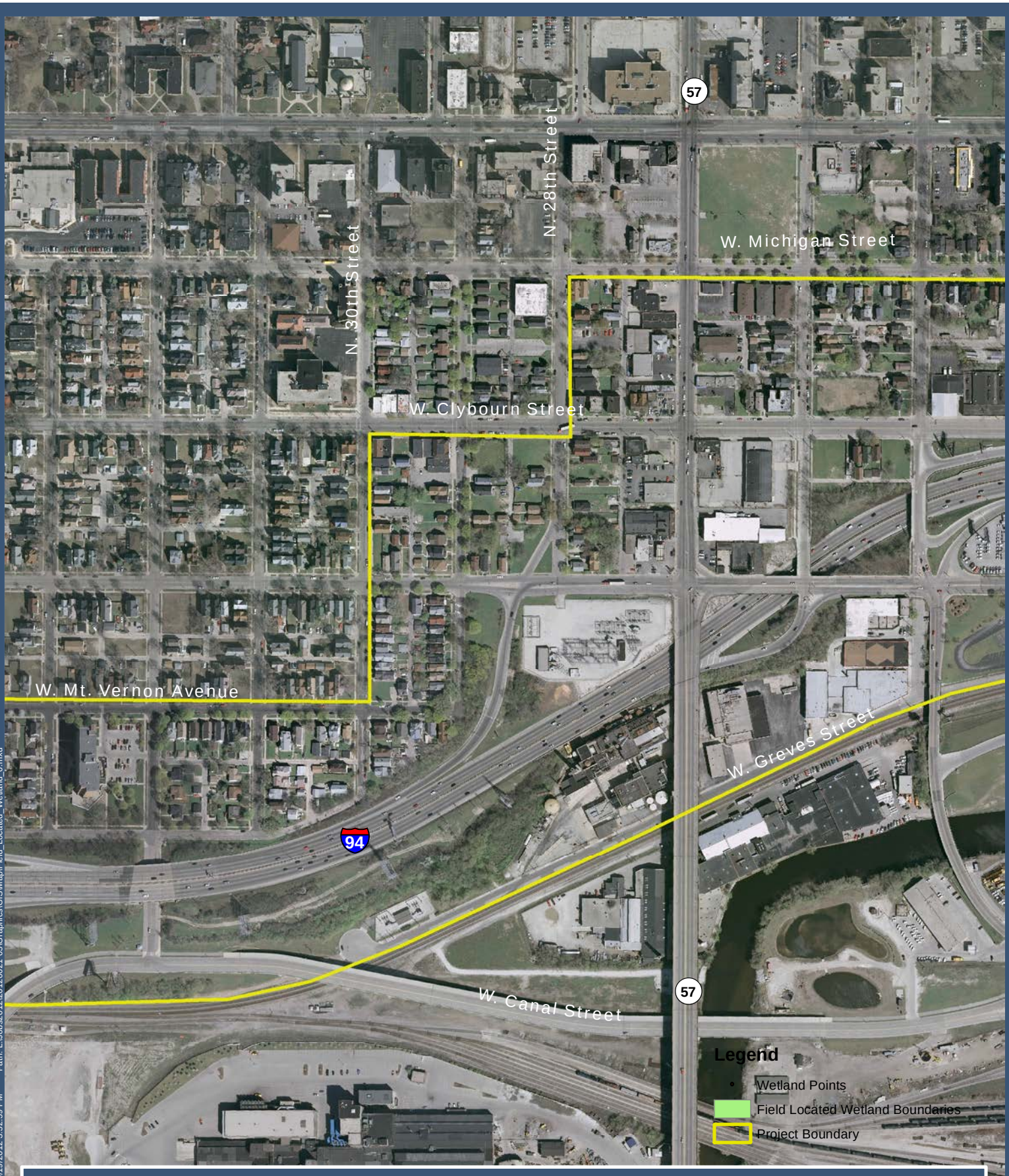

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1 in = 400 ft

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

FIGURE # 2-6

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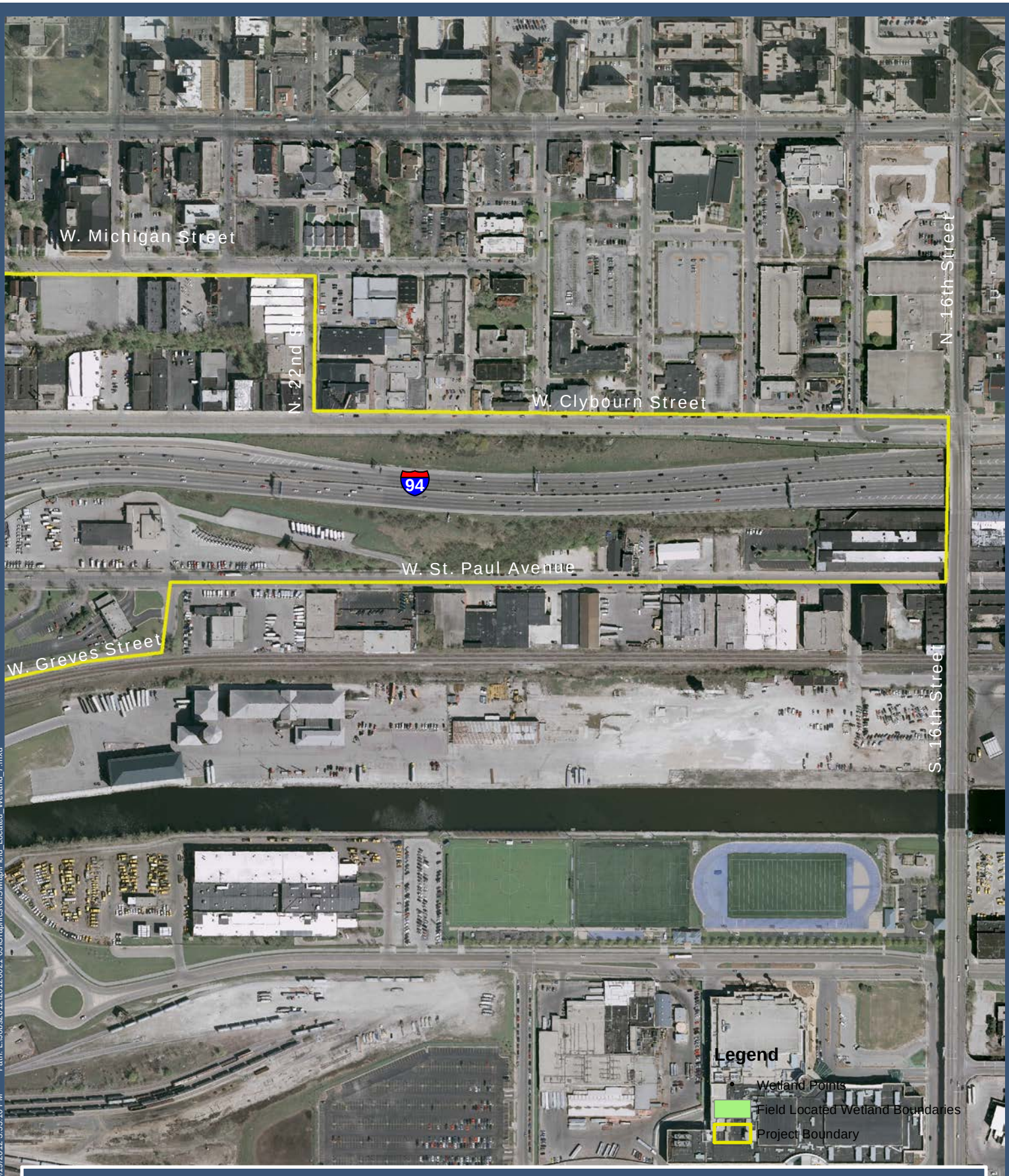

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Feet

1 in = 400 ft

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - Wetland Map

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 2-7

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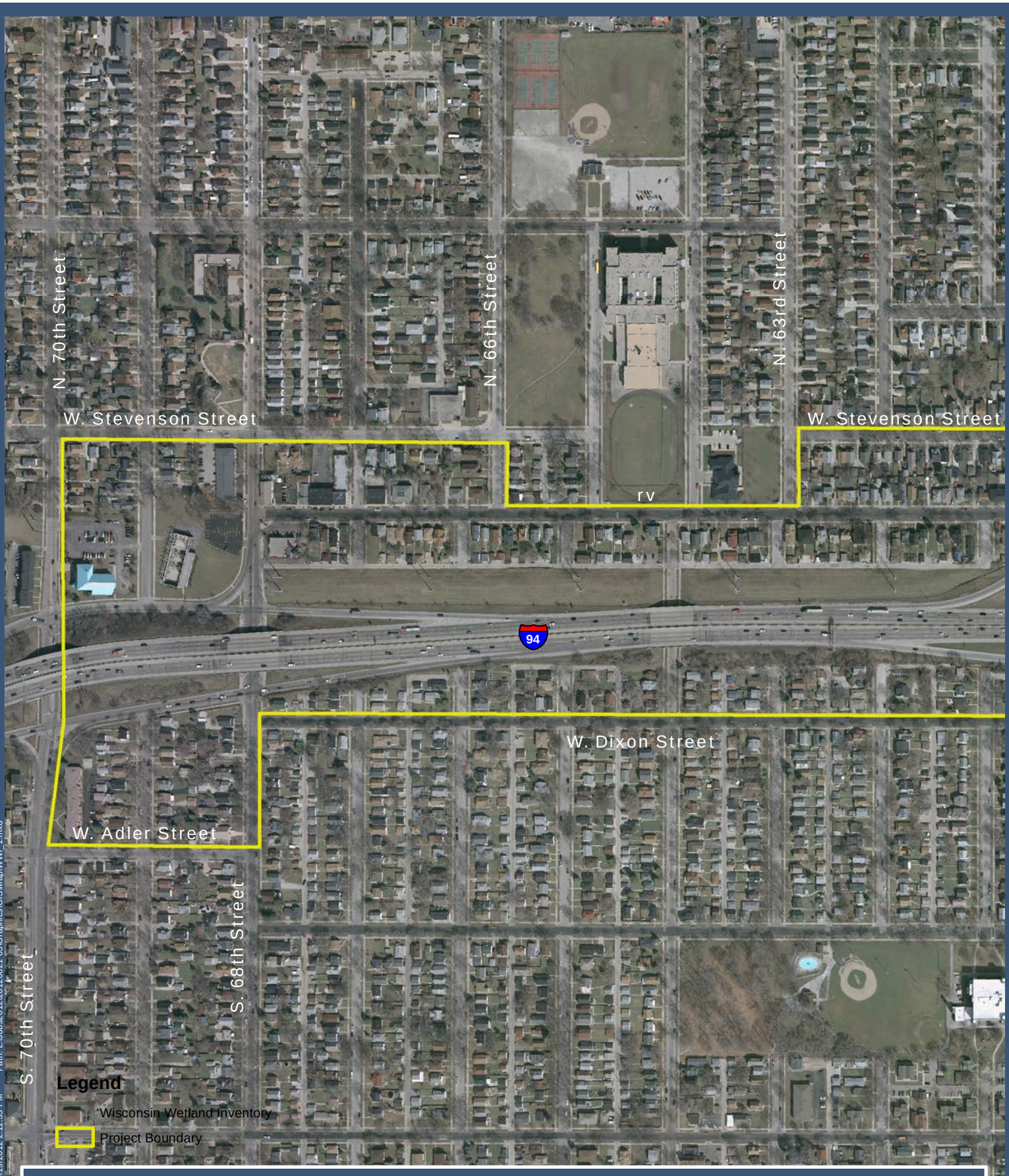

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION
MILWAUKEE, WISCONSIN

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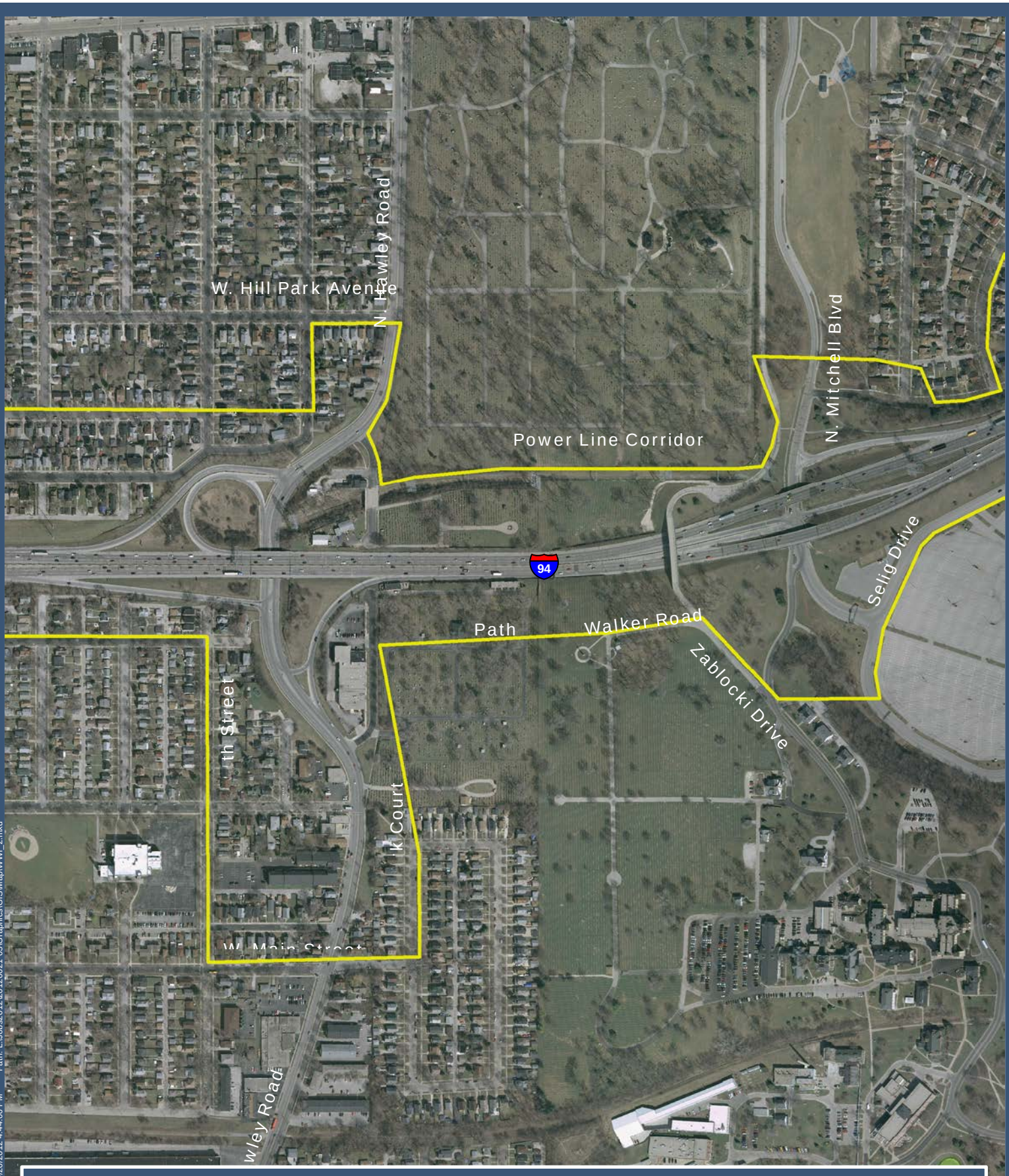

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1 in = 506 ft

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-2

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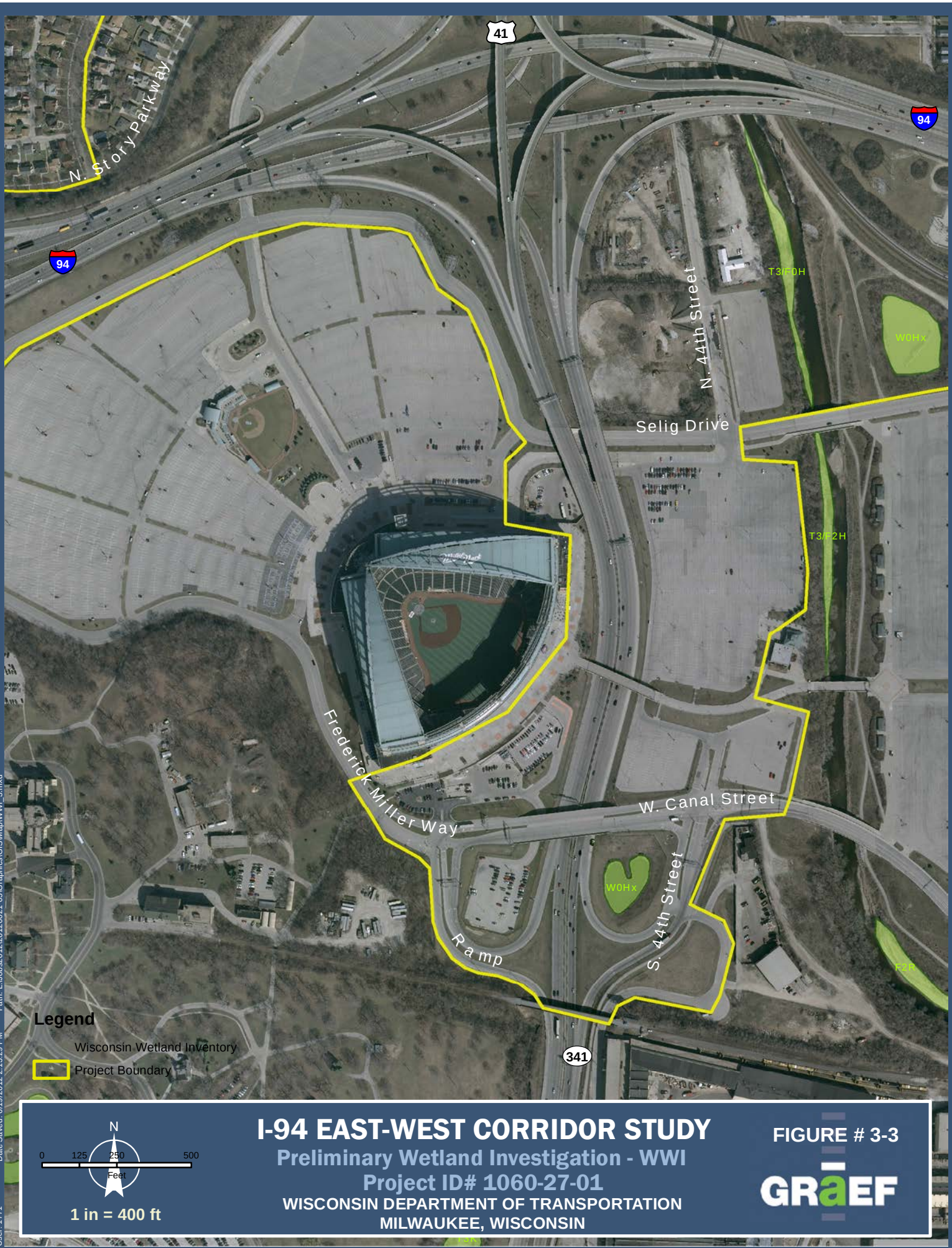

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-3

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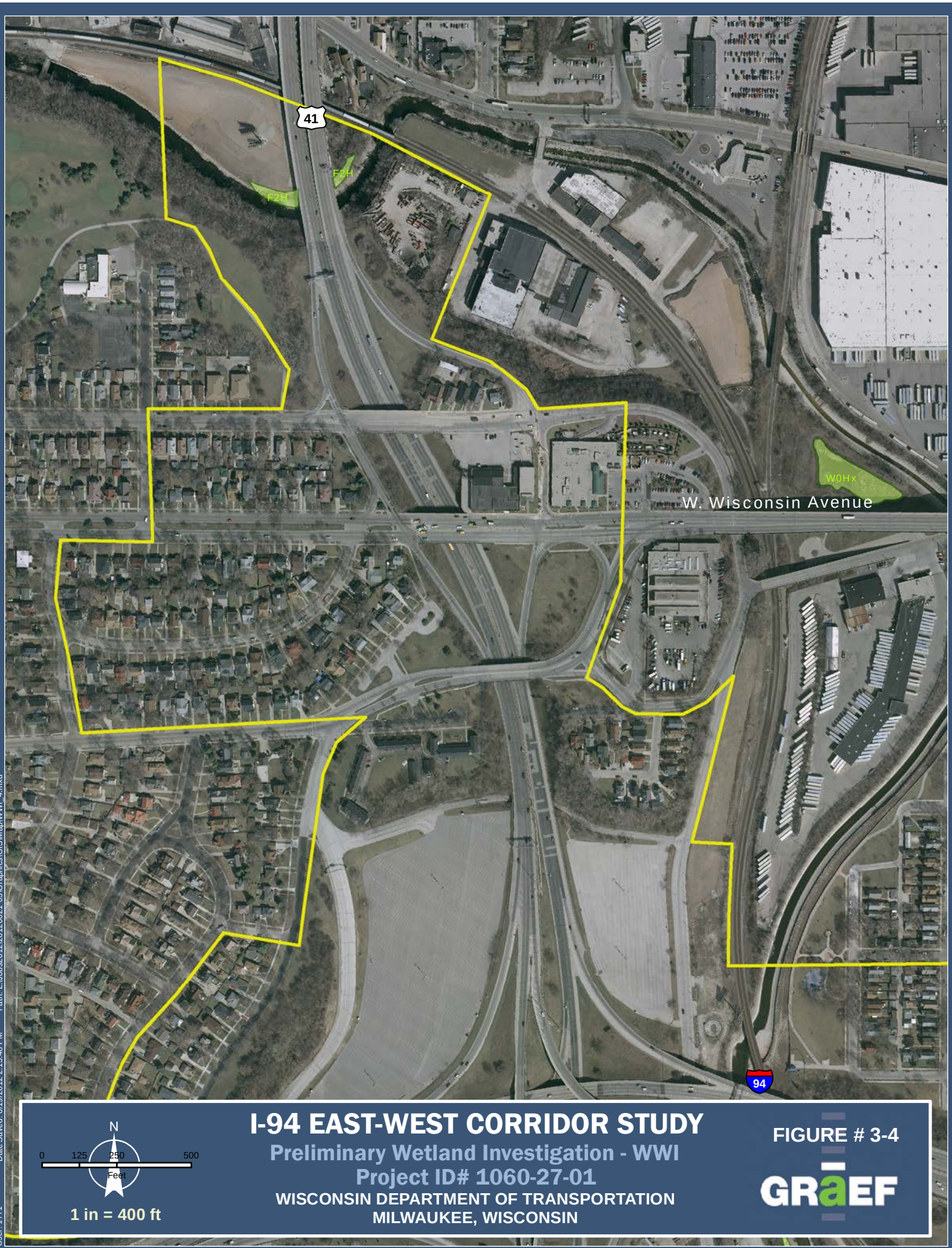

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1 in = 400 ft

I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-4

GRAEF

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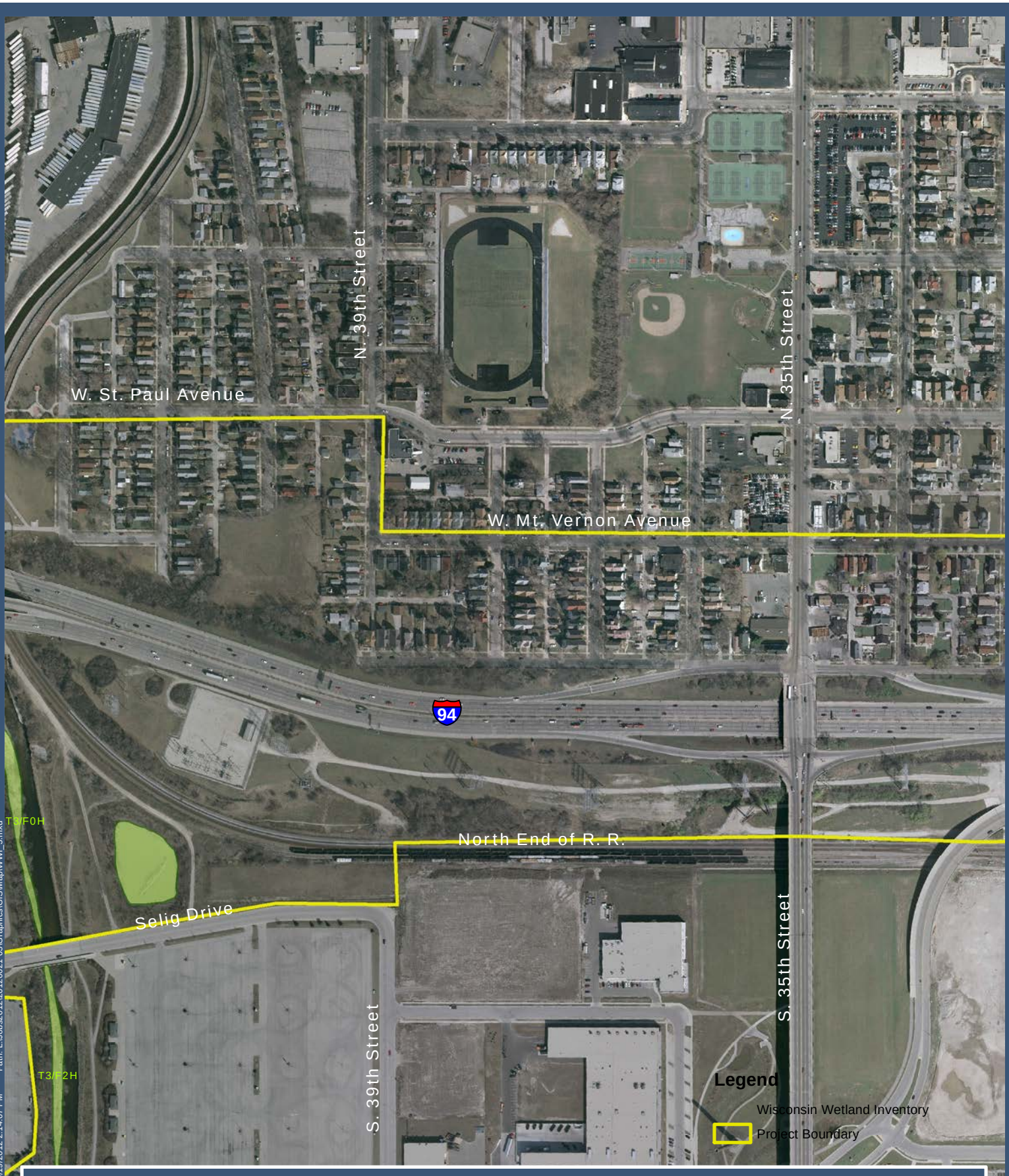

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I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-5

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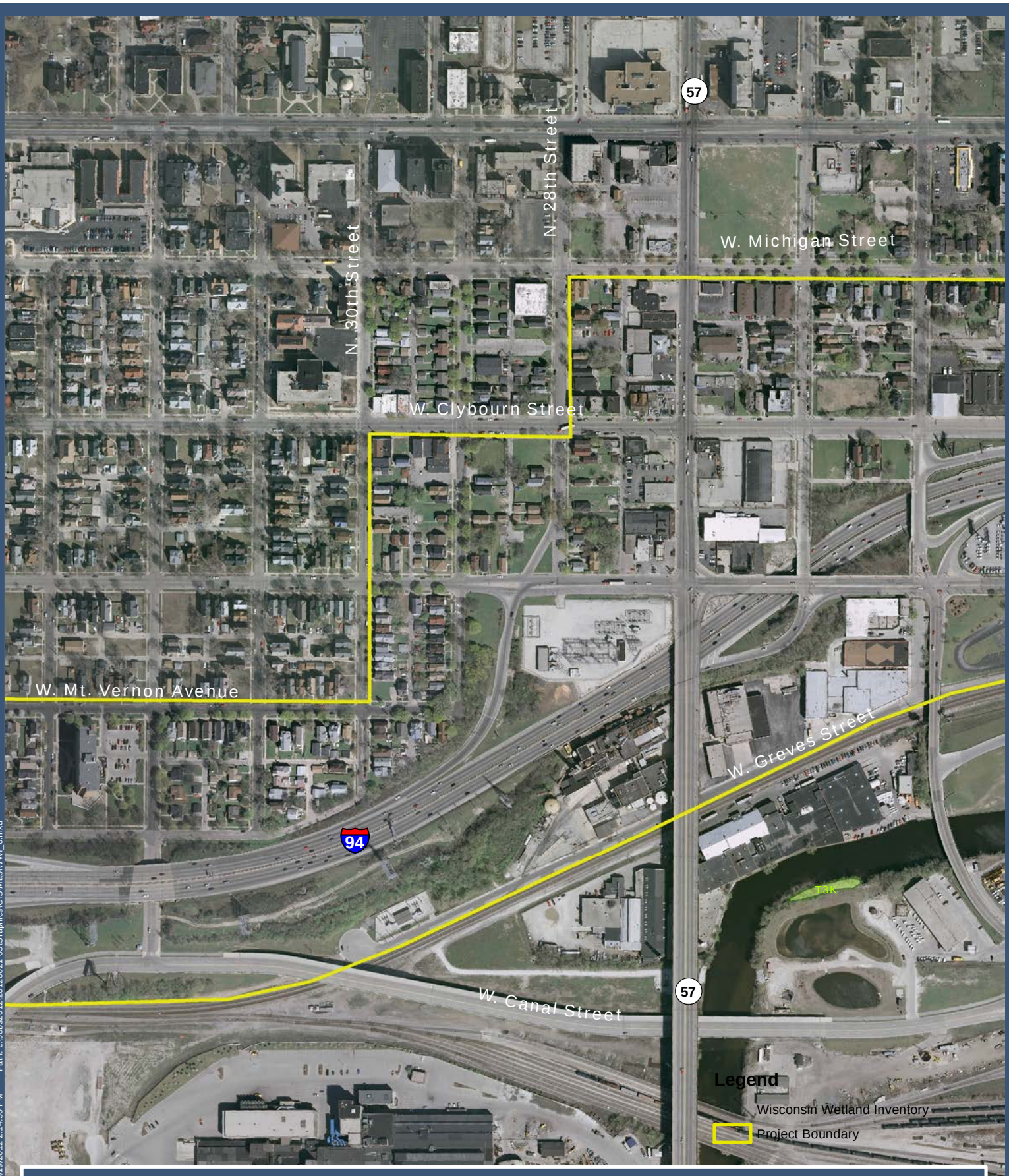

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I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-6

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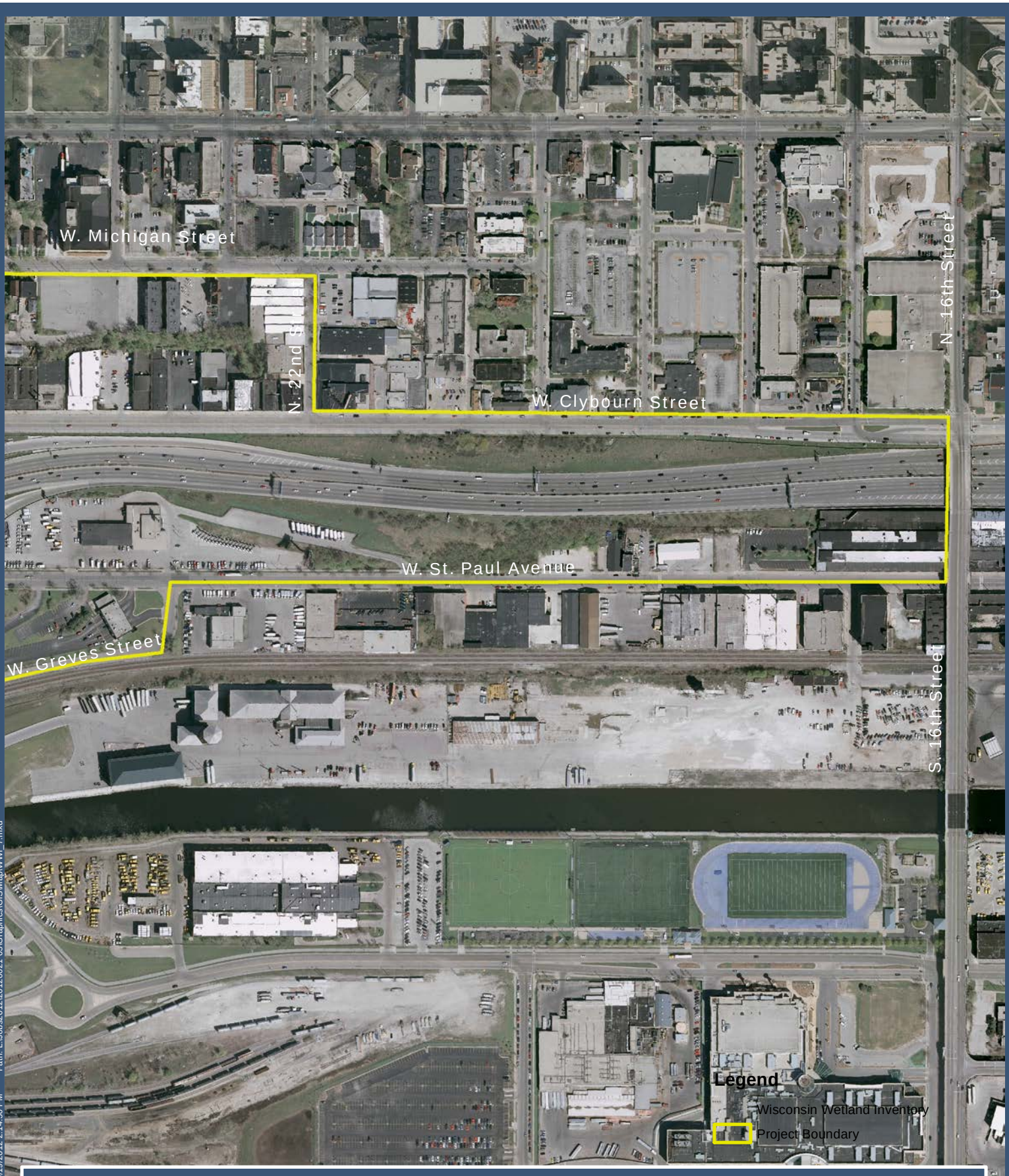

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I-94 EAST-WEST CORRIDOR STUDY

Preliminary Wetland Investigation - WWI

Project ID# 1060-27-01

WISCONSIN DEPARTMENT OF TRANSPORTATION

MILWAUKEE, WISCONSIN

FIGURE # 3-7

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Source: SEWRPC 2010 Aerial Photography

APPENDIX B

Plant Community Lists

GENERAL NOTES FOR PLANT LISTS
Indicator Category Information

The representative vascular plant species for the wetlands are listed in the following tables, along with their indicator categories. The indicator category information was obtained from the National Wetland Plant List Midwest Region or North Central / North East Region. The indicator category designates the expected frequency of occurrence of a given plant species in wetlands of the Midwest Region on the North Central / North East Region of the United States (the specific region is indicated on each list). The following is an explanation of the indicator category designation:

Indicator Category of Occurrence	Expected Frequency
OBL	≥ 99%
FACW	98% - 67%
FAC	33% - 66%
FACU	32% - 2%
UPL	≤ 1%

Wisconsin Floristic Quality Assessment (WFQA)

The *Wisconsin Floristic Quality Assessment* method (Wisconsin Dept. of Natural Resources, 2001 - WFQA) was used to quantitatively determine the floristic quality of the plant communities described within and adjacent to the wetlands in the study area. This method follows Swink & Wilhelm (1994) and is used as a rapid indicator of the ecological quality of plant communities. The WFQA uses numerical ratings between 0 and 10 (“C” values) assigned to each native plant species in Wisconsin based upon the probability it was found in a relatively intact and undisturbed plant community found in Wisconsin. The higher the number, the more likely that species was found in a high quality natural area. The average of the sum of all C Values for each recorded species is the “mean C value” which indicates overall relative disturbance the native plant community has undergone since pre-settlement conditions of the 1800’s. The mean C value multiplied by the square root of the number of species recorded provides a Floristic Quality Index (FQI), which also provides an indicator of species richness. According to the authors of the original methodology (Swink and Wilhelm, 1994), an FQI value below than 20 generally indicates a disturbed plant community with a low probability of being ecologically significant. An FQI value above 20 generally indicates a plant community that is relatively undisturbed and possesses high floristic qualities, but may not be ecologically significant. The authors believe that an FQI above 35 is rare and indicates that a plant community has ecological significance.

References:

Swink, F. and G. Wilhelm (1994). *Plants of the Chicago Region*, 4th ed., Indiana Academy of Science, Indianapolis, 921 pp.
Bernthal, Tom (June 2003). *Development of a Floristic Quality Assessment for Wisconsin,* WDNR – Bureau of Fisheries Management and Habitat Protection, 22 pp.

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: W-1 **Observer(s):** Ron Londre, Geof Parish

Community Classification: **Region:** MW

WWI: WOHx

WisDOT: RPE, SS, AB

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Agrimonia gryposepala*	common agrimony	FACU	2
	X	*Ambrosia artemisiifolia*	annual bur-sage	FACU	0
	X	*Asclepias incarnata*	swamp milkweed	OBL	5
	X	*Bidens frondosa*	Devil's-Pitchfork	FACW	
	X	*Carex blanda*	common wood sedge	FAC	3
	X	*Carex hystericina*	bottlebrush sedge	OBL	3
	X	*Carex lacustris*	common lake sedge	OBL	6
X	X	*Carex vulpinoidea*	brown fox sedge	FACW	2
		Coronilla varia	crown-vetch	NI	
		Daucus carota	Queen Anne's-lace	NI	
X	X	*Eleocharis obtusa*	blunt spike-rush	OBL	3
	X	*Euthamia graminifolia*	grass-leaved goldenrod	FACW	4
	X	*Fragaria virginiana*	thick-leaved wild strawberry	FACU	1
	X	*Geum aleppicum*	yellow avens	FACW	3
		Juncus compressus	round-fruited rush	OBL	
X	X	*Juncus dudleyi*	Dudley's rush	FACW	4
	X	*Leersia oryzoides*	rice cut grass	OBL	3
		Lotus corniculatus	bird's-foot deer-vetch	FACU	
		Lythrum salicaria	purple loosestrife	OBL	
		Morus alba	Russian mulberry	FAC	
	X	*Parthenocissus quinquefolia*	Virginia creeper	FACU	5
		Phalaris arundinacea	reed canary grass	FACW	
		Plantago lanceolata	English plantain	FACU	
		Poa pratensis	Kentucky bluegrass	FAC	
	X	*Populus deltoides*	plains cottonwood	FAC	2
	X	*Salix discolor*	pussy willow	FACW	2
X	X	*Salix interior*	Sandbar Willow	FACW	2
	X	*Schoenoplectus tabernaemontani*	great bulrush	OBL	4
	X	*Scirpus cyperinus*	wool-grass	OBL	4
	X	*Scutellaria lateriflora*	blue skullcap	OBL	5
	X	*Solidago gigantea*	giant goldenrod	FACW	3
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3
	X	*Urtica dioica*	stinging nettle	FACW	1
	X	*Vitis riparia*	river-bank grape	FACW	2

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-1** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **WOHx**

WisDOT: **RPE, SS, AB**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
				∑ =	72
				N =	25
				$\overline{C}$ =	2.88
				FQI =	14.40

$$FQI = \overline{C}\sqrt{N}$$

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: W-2 **Observer(s):** Ron Londre, Geof Parish

Community Classification: **Region:** MW

WWI: T3/F0H

WisDOT: RPF, AB

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Acer negundo*	box elder	FAC	0
	X	*Acer saccharinum*	silver maple	FACW	2
	X	*Ageratina altissima*	White Snakeroot	FACU	1
		Alliaria petiolata	garlic mustard	FAC	
	X	*Ambrosia artemisiifolia*	annual bur-sage	FACU	0
X	X	*Ambrosia trifida*	giant ragweed	FAC	0
		Arctium minus	common burdock	FACU	
		Cirsium arvense	Canada thistle	FACU	
	X	*Erigeron philadelphicus*	common fleabane	FACW	2
X	X	*Fraxinus pennsylvanica*	green ash	FACW	2
	X	*Geum aleppicum*	yellow avens	FACW	3
		Hesperis matronalis	dame's rocket	FACU	
		Juncus compressus	round-fruited rush	OBL	
	X	*Juncus dudleyi*	Dudley's rush	FACW	4
		Leonurus cardiaca	lion's-tail	NI	
X		*Lysimachia nummularia*	creeping-Charlie	FACW	
		Lythrum salicaria	purple loosestrife	OBL	
		Melilotus officinalis	yellow sweet-clover	FACU	
		Morus alba	Russian mulberry	FAC	
	X	*Parthenocissus quinquefolia*	Virginia creeper	FACU	5
	X	*Persicaria pensylvanica*	Pinkweed	FACW	1
X		*Phalaris arundinacea*	reed canary grass	FACW	
		Poa compressa	Canada bluegrass	FACU	
		Rhamnus cathartica	common buckthorn	FAC	
		Salix babylonica	weeping willow	FACW	
X	X	*Solidago gigantea*	giant goldenrod	FACW	3
X	X	*Symphyotrichum lateriflorus*	calico aster	FACW	3
	X	*Thalictrum thalictroides*	rue-anemone	FACU	7
	X	*Ulmus americana*	American elm	FACW	3
		Ulmus pumila	Siberian elm	UPL	
	X	*Urtica dioica*	stinging nettle	FACW	1
	X	*Viola sororia*	door-yard violet	FAC	3
	X	*Vitis riparia*	river-bank grape	FACW	2
				∑ =	42

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-2** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **T3/F0H**

WisDOT: **RPF, AB**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
			$FQI = \overline{C}\sqrt{N}$	*N* =	18
				$\overline{C}$ =	2.33
				FQI =	9.90

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: W-3 **Observer(s):** Ron Londre, Geof Parish

Community Classification: **Region:** MW

WWI: W0Hx

WisDOT: RPE, AB

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Cirsium arvense	Canada thistle	FACU	
	X	*Eupatorium altissimum*	upland boneset	NI	4
	X	*Helenium autumnale*	common sneezeweed	FACW	4
	X	*Juncus dudleyi*	Dudley's rush	FACW	4
		Leucanthemum vulgare	ox-eye daisy	NI	
		Lotus corniculatus	bird's-foot deer-vetch	FACU	
		Lythrum salicaria	purple loosestrife	OBL	
		Melilotus officinalis	yellow sweet-clover	FACU	
	X	*Oenothera biennis*	bastard evening-primrose	FACU	1
		Phalaris arundinacea	reed canary grass	FACW	
	X	*Pycnanthemum virginianum*	common mountain mint	FACW	6
		Rumex crispus	curly dock	FAC	
	X	*Salix interior*	Sandbar Willow	FACW	2
	X	*Salix nigra*	black willow	OBL	4
	X	*Schoenoplectus tabernaemontani*	great bulrush	OBL	4
	X	*Solidago gigantea*	giant goldenrod	FACW	3
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3
	X	*Thalictrum dasycarpum*	purple meadow-rue	FACW	4
X		*Typha angustifolia*	narrow-leaved cat-tail	OBL	
	X	*Urtica dioica*	stinging nettle	FACW	1

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ = 40

N = 12

$\overline{C}$ = 3.33

FQI = 11.55

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-4** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Cirsium arvense	Canada thistle	FACU	
		Elymus repens	quackgrass	FACU	
		Lotus corniculatus	bird's-foot deer-vetch	FACU	
X		*Phalaris arundinacea*	reed canary grass	FACW	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
X		*Rumex crispus*	curly dock	FAC	
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	3
N =	1
$\overline{C}$ =	3.00
FQI =	3.00

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-5** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Agrostis gigantea	redtop	FACW	
		Bromus inermis	smooth brome	FACU	
		Cirsium arvense	Canada thistle	FACU	
		Daucus carota	Queen Anne's-lace	NI	
X	X	*Leersia oryzoides*	rice cut grass	OBL	3
		Phalaris arundinacea	reed canary grass	FACW	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
		Rumex crispus	curly dock	FAC	
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	6
N =	2
$\overline{C}$ =	3.00
FQI =	4.24

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-6** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Alliaria petiolata	garlic mustard	FAC	
	X	*Asclepias syriaca*	common milkweed	FACU	1
		Cirsium arvense	Canada thistle	FACU	
		Hesperis matronalis	dame's rocket	FACU	
		Leonurus cardiaca	lion's-tail	NI	
		Lysimachia nummularia	creeping-Charlie	FACW	
		Nepeta cataria	catnip	FACU	
X		*Phalaris arundinacea*	reed canary grass	FACW	
	X	*Rhus glabra*	smooth sumac	NI	2
		Rumex crispus	curly dock	FAC	
	X	*Vitis riparia*	river-bank grape	FACW	2
				$\sum$ =	5
				N =	3
				$\overline{C}$ =	1.67
				FQI =	2.89

$$FQI = \overline{C}\sqrt{N}$$

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-7** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Agrostis gigantea	redtop	FACW	
		Alliaria petiolata	garlic mustard	FAC	
		Arctium minus	common burdock	FACU	
	X	*Asclepias verticillata*	whorled milkweed	FACU	2
		Brassica nigra	black mustard	NI	
		Bromus inermis	smooth brome	FACU	
		Cirsium arvense	Canada thistle	FACU	
		Cirsium vulgare	bull thistle	FACU	
		Leucanthemum vulgare	ox-eye daisy	NI	
		Nepeta cataria	catnip	FACU	
X		*Phalaris arundinacea*	reed canary grass	FACW	
		Poa compressa	Canada bluegrass	FACU	
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3
		Thlaspi arvense	field pennycress	FACU	
X		*Typha x glauca*	hybrid cat-tail	OBL	

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	5
N =	2
$\overline{C}$ =	2.50
FQI =	3.54

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-8** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
X		*Typha angustifolia*	narrow-leaved cat-tail	OBL	

$$FQI = \overline{C}\sqrt{N}$$

∑ =	0
N =	0
$\overline{C}$ =	0
FQI =	0

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: W-9 **Observer(s):** Ron Londre, Geof Parish

Community Classification: **Region:** MW

WWI: Not Indicated

WisDOT: M, SS

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Agrostis gigantea	redtop	FACW	
	X	*Andropogon gerardii*	big blue-stem	FAC	4
	X	*Carex vulpinoidea*	brown fox sedge	FACW	2
		Cirsium vulgare	bull thistle	FACU	
		Daucus carota	Queen Anne's-lace	NI	
	X	*Eleocharis obtusa*	blunt spike-rush	OBL	3
X	X	*Equisetum arvense*	common horsetail	FAC	1
	X	*Erigeron philadelphicus*	common fleabane	FACW	2
	X	*Eupatorium perfoliatum*	boneset	OBL	6
	X	*Helenium autumnale*	common sneezeweed	FACW	4
X	X	*Juncus dudleyi*	Dudley's rush	FACW	4
		Leucanthemum vulgare	ox-eye daisy	NI	
		Lythrum salicaria	purple loosestrife	OBL	
	X	*Monarda fistulosa*	bee balm	FACU	3
	X	*Parthenocissus quinquefolia*	Virginia creeper	FACU	5
		Pastinaca sativa	wild parsnip	NI	
		Penstemon digitalis	false foxglove	FAC	
		Phalaris arundinacea	reed canary grass	FACW	
		Plantago lanceolata	English plantain	FACU	
	X	*Rudbeckia hirta*	black-eyed Susan	FACU	4
		Rumex crispus	curly dock	FAC	
X	X	*Salix interior*	Sandbar Willow	FACW	2
	X	*Salix nigra*	black willow	OBL	4
	X	*Scutellaria lateriflora*	blue skullcap	OBL	5
	X	*Silphium laciniatum*	compass-plant	NI	8
	X	*Silphium perfoliatum*	cup-plant	FACW	4
	X	*Solidago canadensis*	Canadian goldenrod	FACU	1
	X	*Solidago gigantea*	giant goldenrod	FACW	3
	X	*Symphyotrichum ciliolatus*	Lindley's aster	NI	4
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3
	X	*Toxicodendron radicans*	common eastern poison-ivy	FAC	4
X		*Typha angustifolia*	narrow-leaved cat-tail	OBL	
	X	*Urtica dioica*	stinging nettle	FACW	1
	X	*Vitis riparia*	river-bank grape	FACW	2

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-9** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M, SS**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
				∑ =	79
			$FQI = \overline{C}\sqrt{N}$	*N* =	23
				$\overline{C}$ =	3.43
				FQI =	16.47

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-10** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
X		*Poa pratensis*	Kentucky bluegrass	FAC	
		Bromus inermis	smooth brome	FACU	
		Cirsium arvense	Canada thistle	FACU	
		Nepeta cataria	catnip	FACU	
		Phalaris arundinacea	reed canary grass	FACW	

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	0
N =	0
$\overline{C}$ =	0
FQI =	0

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-11** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Agrimonia gryposepala*	common agrimony	FACU	2
		Agrostis gigantea	redtop	FACW	
		Alliaria petiolata	garlic mustard	FAC	
	X	*Carex vulpinoidea*	brown fox sedge	FACW	2
		Cirsium arvense	Canada thistle	FACU	
		Cirsium vulgare	bull thistle	FACU	
		Daucus carota	Queen Anne's-lace	NI	
	X	*Fraxinus pennsylvanica*	green ash	FACW	2
	X	*Glyceria striata*	fowl manna grass	OBL	4
	X	*Impatiens capensis*	orange jewelweed	FACW	2
X	X	*Juncus canadensis*	Canadian rush	OBL	7
X	X	*Juncus dudleyi*	Dudley's rush	FACW	4
	X	*Leersia oryzoides*	rice cut grass	OBL	3
		Lysimachia nummularia	creeping-Charlie	FACW	
		Nepeta cataria	catnip	FACU	
	X	*Parthenocissus quinquefolia*	Virginia creeper	FACU	5
		Phalaris arundinacea	reed canary grass	FACW	
		Plantago lanceolata	English plantain	FACU	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
		Rhamnus cathartica	common buckthorn	FAC	
	X	*Scirpus atrovirens*	dark-green bulrush	OBL	3
		Solanum dulcamara	bittersweet nightshade	FAC	
	x	*Juncus alpinoarticulatus*	northern green rush	OBL	6
	X	*Viola sororia*	door-yard violet	FAC	3
	X	*Vitis riparia*	river-bank grape	FACW	2

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	45
N =	13
$\overline{C}$ =	3.46
FQI =	12.48

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-12** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
X		*Agrostis gigantea*	redtop	FACW	
		Cirsium arvense	Canada thistle	FACU	
X	X	*Eleocharis obtusa*	blunt spike-rush	OBL	3
		Lysimachia nummularia	creeping-Charlie	FACW	
		Nepeta cataria	catnip	FACU	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
		Rhamnus cathartica	common buckthorn	FAC	
	X	*Scirpus microcarpus*	panicled bulrush	OBL	6

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	9
N =	2
$\overline{C}$ =	4.50
FQI =	6.36

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-13** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Acer negundo*	box elder	FAC	0
	X	*Bidens cernua*	Nodding Burr-Marigold	OBL	4
		Daucus carota	Queen Anne's-lace	NI	
X	X	*Eleocharis obtusa*	blunt spike-rush	OBL	3
	X	*Juncus canadensis*	Canadian rush	OBL	7
		Lysimachia nummularia	creeping-Charlie	FACW	
		Nepeta cataria	catnip	FACU	
	X	*Persicaria pensylvanica*	Pinkweed	FACW	1
		Plantago lanceolata	English plantain	FACU	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
		Rumex crispus	curly dock	FAC	
		Solanum dulcamara	bittersweet nightshade	FAC	

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	15
N =	5
$\overline{C}$ =	3.00
FQI =	6.71

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-14** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
X		*Agrostis gigantea*	redtop	FACW	
		Cirsium arvense	Canada thistle	FACU	
		Cirsium vulgare	bull thistle	FACU	
		Coronilla varia	crown-vetch	NI	
		Elymus repens	quackgrass	FACU	
X		*Poa pratensis*	Kentucky bluegrass	FAC	

$$FQI = \overline{C}\sqrt{N}$$

∑ =	0
N =	0
$\overline{C}$ =	0
FQI =	0

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-15** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **Not Indicated**

WisDOT: **M**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Asclepias verticillata*	whorled milkweed	FACU	2
		Cirsium arvense	Canada thistle	FACU	
		Coronilla varia	crown-vetch	NI	
		Elymus repens	quackgrass	FACU	
		Nepeta cataria	catnip	FACU	
	X	*Parthenocissus quinquefolia*	Virginia creeper	FACU	5
X		*Phalaris arundinacea*	reed canary grass	FACW	
X		*Poa pratensis*	Kentucky bluegrass	FAC	
	X	*Rhus hirta*	staghorn sumac	NI	2
		Rumex crispus	curly dock	FAC	
		Thlaspi arvense	field pennycress	FACU	

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	9
N =	3
$\overline{C}$ =	3.00
FQI =	5.20

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: W-16 **Observer(s):** Ron Londre, Geof Parish

Community Classification: **Region:** MW

WWI: FH2

WisDOT: M, RPF, RPE

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
	X	*Acer negundo*	box elder	FAC	0
	X	*Acer saccharinum*	silver maple	FACW	2
	X	*Ageratina altissima*	White Snakeroot	FACU	1
		Agrostis gigantea	redtop	FACW	
		Alliaria petiolata	garlic mustard	FAC	
	X	*Ambrosia trifida*	giant ragweed	FAC	0
		Brassica nigra	black mustard	NI	
	X	*Carex cristatella*	crested oval sedge	FACW	4
	X	*Carex scoparia*	broom sedge	FACW	4
	X	*Carex vulpinoidea*	brown fox sedge	FACW	2
		Cirsium arvense	Canada thistle	FACU	
		Cirsium vulgare	bull thistle	FACU	
	X	*Conyza canadensis*	Canadian horseweed	FACU	0
		Daucus carota	Queen Anne's-lace	NI	
		Elymus repens	quackgrass	FACU	
	X	*Erigeron philadelphicus*	common fleabane	FACW	2
	X	*Eupatorium altissimum*	upland boneset	NI	4
X	X	*Fraxinus pennsylvanica*	green ash	FACW	2
	X	*Helenium autumnale*	common sneezeweed	FACW	4
		Hordeum jubatum	foxtail barley	FAC	
		Leucanthemum vulgare	ox-eye daisy	NI	
		Lotus corniculatus	bird's-foot deer-vetch	FACU	
		Lysimachia nummularia	creeping-Charlie	FACW	
		Lythrum salicaria	purple loosestrife	OBL	
		Melilotus officinalis	yellow sweet-clover	FACU	
		Morus alba	Russian mulberry	FAC	
	X	*Oenothera biennis*	bastard evening-primrose	FACU	1
X	X	*Panicum virgatum*	switch grass	FAC	4
X		*Persicaria maculosa*	Lady's-Thumb	FACW	
	X	*Persicaria pensylvanica*	Pinkweed	FACW	1
		Phalaris arundinacea	reed canary grass	FACW	
		Plantago lanceolata	English plantain	FACU	
		Poa compressa	Canada bluegrass	FACU	
X		*Poa pratensis*	Kentucky bluegrass	FAC	

FLORISTIC QUALITY ASSESSMENT

I-94 East-West Corridor WisDOTID# 1060-27-01

GRAEF PN 2012-0021.05

June 2012

Wetland ID: **W-16** **Observer(s):** **Ron Londre, Geof Parish**

Community Classification: **Region:** MW

WWI: **FH2**

WisDOT: **M, RPF, RPE**

Dominant	Native	Scientific Name	Common Name	Indicator Status	WI C-Value
		Rhamnus cathartica	common buckthorn	FAC	
		Rumex crispus	curly dock	FAC	
	X	*Salix nigra*	black willow	OBL	4
	X	*Sambucus canadensis*	American elder	NI	3
	X	*Scirpus atrovirens*	dark-green bulrush	OBL	3
		Solanum dulcamara	bittersweet nightshade	FAC	
		Sonchus arvensis	field sow-thistle	FACU	
	X	*Symphyotrichum novae-angliae*	New England aster	FACW	3
	X	*Symphyotrichum sagittifolius*	arrow-leaved aster	NI	3
		Taraxacum officinale	common dandelion	FACU	
		Thlaspi arvense	field pennycress	FACU	
		Trifolium pratense	red clover	FACU	
	X	*Ulmus americana*	American elm	FACW	3
		Ulmus pumila	Siberian elm	UPL	
	X	*Urtica dioica*	stinging nettle	FACW	1
	X	*Vitis riparia*	river-bank grape	FACW	2
	X	*Xanthium strumarium*	common cocklebur	FAC	1

$$FQI = \overline{C}\sqrt{N}$$

$\sum$ =	54
N =	24
$\overline{C}$ =	2.25
FQI =	11.02

APPENDIX C

Site Photographs on CD

APPENDIX D

Wetland Summary Table

Appendix D
Wetland Information Table
I-94 East-West Corridor
Milwaukee County, WI

Wetland ID	Location Description	Classification[1]	Dominant Plant Species	Floristic Quality Index (FQI)	Mapped Waterway?	Opinion of Jurisdiction (Isolated / Non-Isolated)	WWI Classification	Comments
W-1	NW1/4 NW1/4 S36 T7N R21E	RPE, SS, AB	*Carex vulpinoidea, Eleocharis obtusa, Juncus dudleyi, Salix interior*	14.40	No	Non-Isolated	WOHx	Stormwater detention pond exhibiting wetland criteria, comprosed of a wetland shorline leading to standing water. Appears to be connected to the Menomonee River through oulet structures.
W-2	SW1/4 SW1/4 S25 T7N R21E	RPE, AB	*Ambrosia trifida, Fraxinus pennsylvanica, Lysimachia nummularia, Phalaris arundinacea, Solidago gigantea, Symphyotrichum lateriflorus*	9.90	Yes	Non-Isolated	T3/F0H	Floodplain and mud flats along the Menomonee River, Includes the surface water of the Menomonee River.
W-3	NW1/4 NW1/4 S36 T7N R21E	RPE, AB	*Typha angustifolia*	11.55	No	Non-Isolated	WOHx	Stormwater detention pond exhibiting wetland criteria, comprosed of a wetland shorline leading to standing water. Appears to be connected to the Menomonee River through oulet structures.
W-4	NE1/4 SE1/4 S26 T7N R21E	M, AB	*Phalaris arundinacea, Poa pratensis, Rumex crispus*	3.00	No	Isolated	Not Indicated	Wetland area is a low point where water is trapped between roadway and rail road tracks.
W-5	NE1/4 SE1/4 S26 T7N R21E	M	*Leersia oryzoides, Poa pratensis*	4.24	No	Isolated	Not Indicated	Wetland area is a low point where water is trapped between roadway and rail road tracks. This wetland extends norht outside of the study area.
W-6	NE1/4 SE1/4 S26 T7N R21E	M	*Phalaris arundinacea*	2.89	No	Isolated	Not Indicated	Wetland area is a low point beside US-41 where water is trapped between the highway and an upland area.
W-7	SE1/4 SE1/4 S26 T7N R21E	M	*Asclepias verticillata, Symphyotrichum novae-angliae*	3.54	No	Isolated	Not Indicated	Wetland area is located in a lowpoint in the infield of the interchange where the inlet structure is not located at the lowest point allowing water to pond.
W-8	SE1/4 SE1/4 S26 T7N R21E	M	*Typha angustifolia*	0.00	No	Isolated	Not Indicated	Small wetland less than 20 square feet in size. Located at the bottom of drain that leads to overheead interchange ramp.
W-9	NE1/4 NW1/4 S35 T7N R21E	M, SS	*Equisetum arvense, Juncus dudleyi, Salix interior, Typha angustifolia*	16.47	No	Isolated	Not Indicated	Groundwater fed wetland partially dominated by sandbar willow. Evicence of wetland fill observed. Fill material includes sod and clay soil mixed with cobble.
W-10	NW1/4 NW1/4 S35 T7N R21E	M	*Poa pratensis*	0.00	No	Isolated	Not Indicated	Wetland area is less than 20 square feet in size and surrounds an inlet structure that is elevated slightly above the surrounding grade allowing for water to pond.
W-11	NW1/4 NW1/4 S35 T7N R21E	M	*Juncus canadensis, Juncus dudleyi, Poa pratensis*	12.48	No	Isolated	Not Indicated	Wetland area appears to be ground water fed. It is located within a lowpoint along the transmission line corridor. The wetland area is between the corridor access drive and a concrete retaining wall.

Appendix D
Wetland Information Table
I-94 East-West Corridor
Milwaukee County, WI

Wetland ID	Location Description	Classification[1]	Dominant Plant Species	Floristic Quality Index (FQI)	Mapped Waterway?	Opinion of Jurisdiction (Isolated / Non-Isolated)	WWI Classification	Comments
W-12	NW1/4 NW1/4 S35 T7N R21E	M	*Agrostis gigantea, Eleocharis obtusa, Poa pratensis*	6.36	No	Isolated	Not Indicated	Wetland area appears to be ground water fed. It is located within a lowpoint along the transmission line corridor. The wetland area is between the corridor access drive and a steep slope.
W-13	NW1/4 NW1/4 S35 T7N R21E	M	*Eleocharis obtusa, Poa pratensis*	6.71	No	Isolated	Not Indicated	Wetland area appears to be ground water fed. It is located within a lowpoint along the transmission line corridor. The wetland area is between the corridor access drive and a steep slope.
W-14	SE1/4 SW1/4 S26 T7N R21E	M	*Agrostis gigantea, Poa pratensis*	0.00	No	Isolated	Not Indicated	Wetland area is located between an exit ramp and upland area where water is trapped.
W-15	SE1/4 SW1/4 S26 T7N R21E	M	*Phalaris arundinacea, Poa pratensis*	5.20	No	Isolated	Not Indicated	Wetland area is located bwtween the interstate highway and exit ramp where water moves slowley enough through the swale towards an inlet drain to allow the wetland criteria to have developed.
W-16	SW1/4 NE1/4 S26 T7N R21E	M, RPF, RPE	*Fraxinus pennsylvanica, Panicum virgatum, Persicaria maculosa, Poa pratensis*	11.02	Yes	Non-Isolated	FH2	Area is comprised of the Menomonee River, Sparsley vegetated mudflats, forested emergent aquatic areas, and a new open space area constructed between 2007 and 2010 that is now partially functioning as a wetland.

[1] Wetland type classification based on the *WDOT Wetland Mitigation Banking Technical Guideline* . M = Wet meadow, RPE = Riparian Emergent, RPF = Riparian Wooded, SM = Shallow Marsh, DM= Deep Marsh, WS = Wooded Swamp, SS = Shrub Scrub, AB = Aquatic Bed.